CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.12/RS/CEMENT/2013-14

Date: 29.07.2013

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
AGENCY	:	**Mr. R. Shivaram,** Contractor, Bangalore.
NAME OF THE WORK	:	Construction of RCC drains at Kalanagara in Kammagondanahalli, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
REFERENCE	:	BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 27.07.2013
SAMPLE ID	:	CEMENT
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	135 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	465 Minutes	Not More than 600 Minutes
3	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm

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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.12/RS/SAND/2013-14 : 29.07.2013

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.

Agency : **Mr. R. Shivaram,** Contractor, Bangalore.

Name of Work : Construction of RCC drains at Kalanagara in Kammagondanahalli, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.

Reference : BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 27.07.2013

Date of Testing : 29.07.2013

Material : Sand

Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	85	4.25	4.25	95.8	90-100
2.36	185	9.25	13.50	86.5	75-100
1.18	465	23.25	36.75	63.3	55-90
600 Micron	485	24.25	61.00	39.0	35-59
300 Micron	525	26.25	87.25	12.8	8-30
150 Micron	156	7.80	95.05	5.0	0-10

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Job No.: CTCE/BBMP/W.No.12/RS/AGG/2013-14 : 29.07.2013

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.

Agency : **Mr. R. Shivaram,** Contractor, Bangalore.

Name of Work : Construction of RCC drains at Kalanagara in Kammagondanahalli, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.

Reference : BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 27.07.2013

Date of Testing : 29.07.2013

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	990	3.96	3.96	96.04	95-100
20	15645	62.58	66.54	33.46	30-70
10	4985	19.94	86.48	13.52	10-35
4.75	2600	10.40	96.88	3.12	0-5

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ಕೆಬ್ಬಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
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Job No.: CTCE/BBMP/W.No.12/RS/AGG/2013-14 : 29.07.2013

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.

Agency : **Mr. R. Shivaram,** Contractor, Bangalore.

Name of Work : Construction of RCC drains at Kalanagara in Kammagondanahalli, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.

Reference : BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 27.07.2013

Date of Testing : 29.07.2013

Material : 20mm Aggregates

Total Wt. of Aggregates in gms= **5000**

Tabel - 1

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
40	0	0	0	100	100
20	195	3.90	3.9	96.10	95-100
10	3170	63.40	67.3	32.70	25-55
4.75	1490	29.80	97.1	2.90	0-10

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4th Block, Shakthi Ganapathi Nagara
Basaveshwaranagar
Bangalore

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.12/RS/STEEL/2013-14 29.07.2013

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Agency	:	**Mr. R. Shivaram,** Contractor, Bangalore.
Name of the Work	:	Construction of RCC drains at Kalanagara in Kammagondanahalli, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 27.07.2013
Date of Test	:	29.07.2013
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	513	556	13.30	O.K	O.K

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Job No.: CTCE/BBMP/W.No.12/RS/CUBE/2013-14

28.08.2013

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Agency	: **Mr. R. Shivaram,** Contractor, Bangalore.
Name of the work	: Construction of RCC drains at Kalanagara in Kammagondanahalli, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 27.07.2013
Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	31.07.2013	28.08.2013	8.145	478.2	21.25
2	31.07.2013	28.08.2013	8.235	492.6	21.89
3	31.07.2013	28.08.2013	8.305	512.3	22.77

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Job No.: CTCE/BBMP/W.No.12/RS/Pre slab/2013-14 08.08.2013

TEST REPORT ON CONCRETE CORE (PRE CAST SLAB)

Name of Client	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, Dasarahalli Zone, BBMP, Bangalore.
Name of Agency	:	**Mr. R. Shivaram,** Contractor, Bangalore.
Name of work	:	Construction of RCC drains at Kalanagara in Kammagondanahalli, in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	:	BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 27.07.2013
No.of Sample Tested	:	03
Date of Testing	:	08.08.2013
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Grade of Concrete	:	M_{20}

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	78.00	0.385	2513.83	1.56	0.955	32.10	16.35	17.66	16.86	21.08
2	50.00	79.00	0.392	2527.14	1.58	0.960	32.50	16.55	17.88	17.16	21.45
3	50.00	80.00	0.400	2546.48	1.60	0.965	33.20	16.91	18.26	17.62	22.03

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